#### Remarks

Applicants and the undersigned reviewed the pending Office Action carefully before preparing this response. Reconsideration is respectfully requested. Nonetheless, in light of the positions presented herein, this application is believed to be in condition for allowance.

Addressing one of several preliminary matters, Applicants believe the Oath/Declaration previously submitted is proper in all respects. No wording or affirmation of the Oath/Declaration, itself, was amended after signature. Rather, only the mailing address of co-inventor Peiwang Zhu was corrected to reflect a recent move to a new apartment. The address change was made before execution of the document, as indicated by the co-inventor's dated signature, consistent with what has been accepted office practice. If any issue remains, the Examiner is invited to contact the undersigned by telephone and a new Oath/Declaration can be obtained.

The Examiner raised several concerns regarding the figures. Replacement sheets providing the requested corrections are hereby submitted. Again, the Examiner is invited to contact the undersigned should any issue remain.

As a final preliminary matter, a substitute specification is hereby submitted to address the recited informalities. Various trademarks are capitalized, as requested. Several acronyms are defined, without adding new matter, as affirmed in the accompanying statement.

More substantively, the Examiner rejected Claim 18 under 35 U.S.C. §112, first paragraph, for reasons of non-enablement. Responsive thereto, the Examiner is referred to page 10 of the specification; examples 3b-3c describe a general methodology for preparation of a substrate such as that recited in Claim 18. As illustrated in scheme 2, condensation of a hydroxylated substrate with an aminoalkyltrialkoxysilane provides a surface functionalized for further reaction and/or self-assembly. In light of the

specification and as would be understood by those skilled in the art, it is respectfully suggested that this rejection be withdrawn.

Claims 1-17 were rejected under 35 U.S.C. §102(a) as anticipated by Zhu. Applicants appreciate the Examiner's concern, but respectfully disagree. The Zhu article was presented in September, 2003, with a website preprint appearing in August, 2003. (See, the materials of Exhibit A, incorporated herein by reference.) The corresponding subject matter was disclosed much earlier in the February, 2003 provisional application, from which the present application claims priority. According to this timeline, the Zhu article does not anticipate the present invention. The rejection should be withdrawn, with the subject claims allowed to proceed toward issue.

Several other claims were rejected under 35 U.S.C. §102(b) as anticipated by the Meyer and/or Fleck references. Applicants appreciate the Examiner's interest in efficient prosecution, but respectfully disagree. Neither Meyer nor Fleck anticipate the claimed invention. Referring to independent Claims 1, 10 and 12, none of the many compounds in Meyer or Fleck disclose Applicants' hydrogen-donor (D) or hydrogen-acceptor (A) moieties. None of the cited A or D moieties are functionally capable of hydrogen-bonding interaction with another or a structurally related compound. For instance, without limitation, the Fleck phenyl moiety cited by the Examiner as comparable to Applicants' A and D is functionally incapable of hydrogen-bonding interaction. Accordingly, neither Meyer nor Fleck is an anticipatory reference. Each rejection should be withdrawn, with the subject claims allowed to proceed toward issue.

Claim 18 was rejected under 35 U.S.C. §103(a) as unpatentable over Zhu, in combination with the Richter reference. Inasmuch as Zhu is not prior art, its combination with Richter is an inappropriate basis for obviousness. Likewise, this rejection should be withdrawn, with the subject claim allowed to proceed toward issue.

Finally, several claims were rejected under the Doctrine of Obviousness-type double patenting in view of the prior Marks patent. However, the Marks patent does not

disclose or suggest the present hydrogen-donor or hydrogen-acceptor moieties. The chromophore compounds in the prior Marks patent are chemically and structurally distinct, and the corresponding self-assembly procedure would lead one away from the present invention. Again, Applicants appreciate the Examiner's interest in efficient prosecution, but there is no obviousness concern raised by the prior Marks patent. As such, this rejection should also be withdrawn, with the subject claims to be allowed to proceed toward issue.

This application is now believed to be condition for allowance. Consistent therewith, prompt favorable action is respectfully requested. The examiner is invited to contact the undersigned by telephone should any issue remain. Thank you for your time and consideration.

Respectfully submitted,

By: Looke Ockney

Rodney DDeKruif Attorney for Applicants

Reg. No. 35,853

Date: April 3, 2006

REINHART BOERNER VAN DEUREN s.c.

Attn: Linda Kasulke **Docket Clerk** 

1000 North Water Street, Suite 2100

Milwaukee, WI 53202

Telephone: 414-298-8360 Facsimile: 414-298-8097



# of Polymeric Materials: Science and ngineering Division Preprints

#### 226<sup>th</sup> National Meeting New York, NY September 7-11, 2003

Click to Search Preprints for this meeting

Advances in Epoxide and Polyurethane Coatings			
Assembly and Applications of Soft Interfaces			
General Papers/New Concepts in Polymeric Materials			
I©I Student Award Symposium			
Joint PMSE/POLY Poster Session			
Memorial Symposium in Honor of Vivian T. Stannett			
Nanostructured Liquid Crystal/Polymeric Materials, Applications and Devices			
Polymeric Drug Delivery: Science and Application			
Polymers as Additives			
Sci-Mix			
Smart Nano-Assemblies			
Tess Award Symposium in Honor of Rose Ryntz			

#### Back to the Top

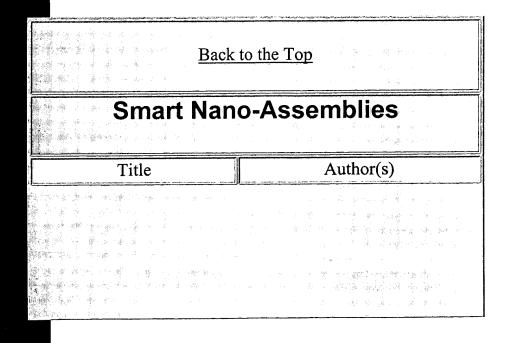
## Advances in Epoxide and Polyurethane Coatings

Title	Author(s)			
Study on crosslinkable acrylic resin modified waterborne two component polyurethane systems	M. Jia, J. Wang, B. Zhang			
Effects of POSS nanoparticles on structure within thin epoxy/ POSS films: A neutrom reflectivity study	H. Jeon, J. Rameshwaram			
Improvement of thermal- mechanical properties using polyhedral oligomeric silsesquioxanes (POSS)- modified epoxy resins	K. Mya, J. Huang, Y. Xiao, C. He, Y. Siow, J. Dai			
Copolymerization behaviour of styrene with dialkyl itaconates: Effect of the length of alkyl side chain	G. Kumar, S. Agarwaal, V. Choudhary			
Synthesis and surface properties of polyurethanes from dual functional macromonomers	T. Fujiwara, U. Makal, K. Wynne			
Ordering of oligourethanes on surfaces	A. Matzger, K. Kim			
Functional polymer surfaces: Polyurethanes containing fluorooxetane soft blocks	U. Makal, T. Fujiwara, K. Wynne, S. Golledge			

Novel UV-curable cycloaliphatic epoxy based on linseed oil	K. Zou, M. Soucek
Protective space coatings: Synthesis and preliminary analysis of a ceramer approach for nanoscale control of properties	D. Dworak, M. Soucek
UV-curable organic-inorganic hybrid films based on epoxynorbornene linseed oils	Z. Zong, M. Soucek
Lifecycle considerations in manufacturing and application of epoxy acrylate based powder coatings	M. Young, V. Tan, S. Patel, S. Kim, M. Xanthos, K. Ramani

Back to the				
Assembly and Applications of Soft Interfaces				
Title	Author(s)			
Local thermal properties of multilayered polymer thin film	W. Sakai, Y. Tatsumi, A. Ueyasu, C. Chiang, N. Tsutsumi			
Confinement effects on moisture  absorption kinetics in  polyelectrolyte films	B. Vogt, C. Soles, H. Lee, E. Lin, W. Wu			

Self assembled monolayers of organosilcon hydrides (RSiH <sub>3</sub> ) supported on various oxides	R. Helmy, R. Helmy, A. Fadeev, A. Fadeev, S. Marcinko, S. Marcinko
Hydrogen transfer during pentacene sublimation at atmospheric pressure	L. Roberson, L. Roberson, J. Kowalik, J. Kowalik, L. Tolbert, L. Tolbert, C. Kloc, C. Kloc
Effect of temperature and the addition of ethyl acetate as a chain transfer agent on Mv of poly(dimethylamino)ethyl methacrylate	A. Phillips, A. Phillips, H. Lujan-Upton, H. Lujan-Upton
"Synthesis, characterization and ""tailor-making" of gel polymers"	G. Yalin, G. Yalin, H. Lujan-Upton, H. Lujan- Upton
N-alkylamine organization and etching behavior on CdSe nanocrystals (Qdots)	R. Li, R. Li, J. Lee, J. Lee, F. Papadimitrakopoulos, F. Papadimitrakopoulos



Smart pertide nanotube: Targeted immobilization via molecular recognition and size/packing density- controlled nanocrystal coating via biomineralization	H. Matsui, R. Djeleli, Y. Chen, I. Banerjee, L. Yu
Spontaneous formation of metal oxide nanostrands in aqueous media	I. Ichinose
Nano-architectures derived from imprinting and metal oxide layers	T. Kunitake
Nancensincered  polyelectrolyte capsules:  Microcases for chemical  reactions and delivery  nancsystems	G. Sukhorukov
Polyion/MnO <sub>2</sub> nanoparticles multilaver films for electrocatalytic applications	L. Espinal, J. Rusling, S. Suib
Nancensineering of functional capsules by layer-by-layer self-assembly technique	Z. Dai, H. Moehwald
Manniage" of LbL- nanoassembly and traditional lithography for microelectronic element microelectronic	Y. Lvov, F. Hua, J. Shi, T. Cui, M. McShane
Polymer-mediated self assembly of magnetic nanoparticles	S. Sun

Polyelectrolyte multilayers constructed from mixed polyelectrolyte solutions	V. Ball, M. Debreczeny, F. Boulmedais, B. Szalontai, J. Voegel, P. Schaaf
Carbon nanotube based composite materials	A. Mamedov, M. Olek, N. Kotov
Bioactive coatings based on functionalized multilayered polyelectrolyte films	J. Voegel, N. Jessel, J. Chluba, P. Schaaf, J. Ogier
Biofunctional polyelectrolyte multilayer surfaces	J. Schlenoff, J. Jaber, D. Salloum, P. Chase
Nano-electronic sensors: Chemical detection using carbon nanotubes	A. Star, K. Bradley, J. Gabriel, G. Gruner
Electro-optic thin films self-assembled via multiple hydrogen bonds from vapor phase	P. Zhu, H. Kang, A. Facchetti, G. Evmenenko, P. Dutta, T. Marks
Peroxidase activity of enzymes bound to the ends of single-wall carbon nanotube forest electrodes	X. Yu, D. Chattopadhyay, I. Galeska, F. Papadimitrakopoulos, J. Rusling
Hydrogen bonding and stability regimes of weak polyelectrolyte multilayers	S. Sukhishvili, V. Izumrudov
Adaptive surface nanoassemblies: Tuning macroscopic properties through reversible nanoscale reorganization	V. Tsukruk
Polyelectrolyte multilayers as molecularly tunable biomaterials	M. Rubner
	स्तर के प्रकार की प्राप्त की

### Polym. Mat. Sci. Eng. Publication Dates and Information ("PMSE Preprints")

The official publication date of PMSE Preprints is the earlier of: 1) the date that the preprints were delivered to the post office for mailing; or 2) the date the preprints were posted on the Web.

Volume	Meeting City	ISBN No.	ISSN No#	Date	Date on ACS	Start Date
(Date)				Mailed	Preprint	of Meeting
' '					Server	
84-S01	San Diego	0-8412-3787-5	0743-0515	3/1/01	unknown	4/1/01
85-F01	Chicago	0-8412-3802-2	0743-0515	7/23/01	7/27/01	8/26/01
86-S02	Orlando	0-8412-3819-7	1550-6703	2/28/02	3/4/02	4/1/02
87-F02	Boston	0-8412-3844-8	1550-6703	7/18/02	7/22/02	8/18/02
88-S03	New Orleans	0-8412-3868-5	1550-6703	2/26/03	3/03/03	3/23/03
89-F03	New York	0-8412-3882-0	1550-6703	8/4/04	8/11/03	9/7/03
90-S04	Anaheim	0-8412-3921-5	1550-6703	2/25/04	3/01/04	3/28/04
91-F04	Philadelphia	0-8412-3939-8	1550-6703	7/27/04	7/26/04	8/22/04
92-S05	San Diego	0-8412-3954-1	1550-6703	2/14/05	2/14/05	3/13/05
93-F05	Washington	978-08412-3971-5	1550-6703	7/27/05	7/26/05	8/28/05
94-S06	Atlanta					3/26/06
95-F06	San Francisco					9/10/06

S = Spring, F = Fall.

Volumes 85 and earlier are paper preprints with the official title "Polymeric Materials: Science & Engineering, Proceedings of the American Chemical Society Division of Polymeric Materials: Science & Engineering." Volumes 86 and later are CD preprints with the official title "PMSE Preprints." Volumes 84 and later are also published via the ACS Preprints Server.

#### \*Scheduled dates...

#The ISSN no. of PMSE Preprints through vol. 92 is incorrectly given on the book / CD as 074-0515. The correct no. for volumes through 85 is 0743-0515 Beginning with v 86, the ISSN no. was changed by the Library of Congress to 1550-6703 due to the new title / format. However, CAS database records retrieved from 2002-2005 listed the ISSN as 0743-0515 for all volumes.